Appl. No.: 10/826,669 Amdt. dated 05/02/2006

Reply to Office action of February 1, 2006

## Amendments to the Claims:

1. (Original) A comb polymer that is water-soluble, water-dispersible, or both, comprising a polymer main chain and polyester side-arms which contain sulfonic acid groups and which are linked to said polymer main chain via ester groups, wherein said side-arms have been at least partially neutralized by sodium and lithium cations, wherein the molar ratio of lithium to sodium is between 0.1 and 50.

- 2. (Original) The comb polymer according to Claim 1, wherein the molar ratio of lithium to sodium is between 0.5 and 25.
- 3. (Original) The comb polymer according to Claim 1, wherein the polymer main chain comprises at least one polymer selected from the group consisting of polyacrylic acid, polymethacrylic acid, esters of polyacrylic acid, esters of polymethacrylic acid, polymaleic acid, polymaleic anhydride, and polyfumaric acid.
- 4. (Original) The comb polymer according to Claim 1, wherein the polymer main chain comprises at least one ester of polyacrylic acid or polymethacrylic acid with a  $C_1$  to  $C_{22}$  aliphatic, cycloaliphatic or aromatic alcohol.
- 5. (Original) The comb polymer according to Claim 1, wherein the polyester side-arms comprise at least one polyester selected from the group consisting of:

Formula I

Appl. No.: 10/826,669 Amdt. dated 05/02/2006

Reply to Office action of February 1, 2006

Formula II

and

$$\begin{array}{c|c} & & & \\ & & \\ \hline \end{array}$$

Formula III

wherein:

p and o represent the number of repeating monomer units;

G is selected from the group consisting of  $C_2$  to  $C_{22}$  aromatic, aliphatic and cycloaliphatic organyl units containing at least two terminal oxygen atoms and derivatives of a polyglycol of the formula  $HO-[R^3-O]_{k'}-[R^4-O]_{m'}-H$ , corresponding to an organyl unit

$$-\left(O - R^3\right)_{k'} - \left(O - R^4\right)_{m'}O - \cdots$$

wherein  $R^3$  and  $R^4$  are each  $C_2$ - $C_{22}$  alkylene radicals, and are the same or different and k'+m'  $\geq$  1;

D is selected from the group consisting of  $C_2$  to  $C_{22}$  aromatic, aliphatic and cycloaliphatic organyl units containing at least two terminal acyl groups;

T is selected from the group consisting of sulphonated aromatic, aliphatic and cycloaliphaic organyl radicals containing at least two terminal acyl groups;

at least some of said R1 are lithium and sodium cations, and optionally at least some of

Appl. No.: 10/826,669 Amdt. dated 05/02/2006 Reply to Office action of February 1, 2006

said R<sup>1</sup> are cations different from lithium and sodium cations; and R<sup>2</sup> is selected from the group consisting of:

- aromatic, aliphatic and cycloaliphatic amino functional radicals including a -NH-R<sup>5</sup> or -NR<sup>5</sup><sub>2</sub> group, wherein R<sup>5</sup> is selected from the group consisting of C<sub>1</sub> to C<sub>22</sub> alkyl and aryl radicals;
- aromatic, aliphatic and cycloaliphatic organyl radicals bridged via ether functions -O-R<sup>5</sup>, wherein R<sup>5</sup> is the same as defined above;
- mono- or polyethoxylated sulphonated organyl radicals having the formula  $-(O-CH_2-CH_2)_s-SO_3R^1, \text{ wherein } s\geq 1; \text{ and }$
- polyalkoxy compounds bridged via ether functions of the formula  $-O-[R^7-O]_q-[R^8-O]_r-Y$ , wherein  $R^7$  and  $R^8$  are each independently selected from the group consisting of  $C_2$  to  $C_{22}$  alkyl radicals and are the same or different, Y is hydrogen or a  $C_1-C_{22}$  aliphatic radical, and  $q+r \ge 1$ .
- 6. (Original) The comb polymer according to Claim 5, wherein said one or more additional cations of  $R^1$  are selected from the group consisting of potassium, magnesium, calcium, ammonium, monoalkylammonium, dialkylammonium, trialkylammonium and tetraalkylammonium, wherein the alkyl positions of the ammoniums, independently of one another, comprise a  $C_1$  to  $C_{22}$ -alkyl radical and 0 to 3 hydroxyl groups.
- 7. (Original) The comb polymer according to Claim 5, wherein D comprises an organyl unit of the formula:

wherein R<sup>S</sup> is a C<sub>2</sub> to C<sub>22</sub> aromatic, linear or cyclic, saturated or unsaturated, aliphatic bifunctional radical.

Appl. No.: 10/826,669

Amdt. dated 05/02/2006

Reply to Office action of February 1, 2006

8. (New) The comb polymer according to Claim 7, wherein D is derived from a

dicarboxylic acid monomer selected from the group consisting of phthalic acid, isophthalic acid,

naphthalenedicarboxylic acid, cyclohexanedicarboxylic acid, adipic acid, succinic acid, glutaric

acid, pimelic acid, suberic acid, azelaic acid, sebacic acid, brassylic acid, and combinations

thereof.

9. (New) The comb polymer according to Claim 1, wherein said polymer has a number

average molecular weight from 200 to 2,000,000 g/mol.

10. (New) The comb polymer according to Claim 9, wherein said polymer has a number

average molecular weight from 200 and 100,000 g/mol.

11. (New) The comb polymer according to Claim 10, wherein said polymer has a number

average molecular weight from 1,000 to 30,000 g/mol.

12. (New) The comb polymer according to Claim 11, wherein said polymer has a number

average molecular weight from 5,000 to 15,000 g/mol.

13. (New) The comb polymer according to Claim 5, wherein said polymer has a number

average molecular weight from 200 to 2,000,000 g/mol.

14. (New) The comb polymer according to Claim 13, wherein said polymer has a number

average molecular weight from 200 and 100,000 g/mol.

15. (New) The comb polymer according to Claim 14, wherein said polymer has a number

average molecular weight from 1,000 to 30,000 g/mol.

16. (New) The comb polymer according to Claim 15, wherein said polymer has a number

average molecular weight from 5,000 to 15,000 g/mol.

6 of 9

Appl. No.: 10/826,669 Amdt. dated 05/02/2006

Reply to Office action of February 1, 2006

17. (New) A cosmetic preparation comprising a comb polymer according to Claim 1 and one or more cosmetic auxiliaries.

- 18. (New) The cosmetic preparation according to Claim 17, wherein the cosmetic preparation is a hair-setting composition, a shampoo, or a lotion.
- 19. (New) The cosmetic preparation according to Claim 18, wherein the cosmetic preparation is a hair-setting composition in the form of a spray, foam aerosol, or gel.
- 20. (New) The cosmetic preparation according to Claim 19, wherein the comb polymer is present at a concentration of 0.5 to 30 weight percent.